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FEATURE ARTICLE

MITIGATION CREDITS AND BANKING: MARKET-BASED STRATEGIES FOR ADDRESSING HYDRAULIC CONNECTION IN OREGON'S DESCHUTES BASIN

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Oregon's Deschutes Basin presents a classic "good news, bad news" scenario for future water development. The good news is that hydro-geologists have mapped an extensive ground water aquifer, capable of supplying the domestic, irrigation, municipal, industrial and other water needs of a growing population for years to come. The bad news is that no new water rights can be issued in the Basin unless and until the state Water Resources Department (WRD) finds a way to reconcile existing laws for the protection of surface water with the need to make reasonable use of an ample ground water supply.

Oregon law requires protection of flows necessary to maintain the "free flowing character" of designated state Scenic Waterways. Or. Rev. Stat. 390.835 (1971). Since 1995, the statutes have included specific provisions dealing with the potential impacts of ground water development on Scenic Waterway flows. When new ground water use is shown to "measurably reduce" the amount of water that would otherwise be available for these protected flows, then mitigation must be provided. Or. Rev. Stat. 390.835 (9)-(13) (1995). As part of a general public interest review for new water right applications, state law also requires protection of senior surface water rights from potential interference by ground water development. Or. Rev. Stat. 537.629 (1955).

In an effort to meet these legal requirements, while still allowing for appropriate water development in the Deschutes Basin, the WRD formed a local advisory group—the Deschutes Basin Ground Water Supply Work Group (Work Group). After more than two years of effort, the Work Group helped the WRD define key policy issues and set basic standards for a mitigation program. Although the group did not reach consensus on all points, the Work Group's input did lead to the development of an innovative concept for "mitigation credits" and "mitigation banking", which has now been embodied in Oregon law (2001 Oregon Stats. HB 2184), and in recently proposed administrative rules.

Following is a description of the legal and scientific/technical framework that gave rise to the new mitigation program, and a summary of key mitigation concepts reflected in the proposed rules and new law relating to mitigation credits and mitigation banking.

Background

Legal Framework

Under Oregon Law, both surface water and ground water are public resources. Most uses require a water right issued by the WRD. In deciding whether to approve applications for new ground water rights, the WRD must first determine the proposed new use will "ensure the preservation of the public welfare, safety and health." Or. Rev. Stat. 537.621(2) (1955). A key element of the public interest-based review is a determination that water is available for the new use, and the new use will not injure existing senior water rights.

Since the mid-1970s, Oregon law has also required special protection for rivers and streams designated as state "Scenic Waterways." Or. Rev. Stat. 390.805 *et. seq.* Portions of the Deschutes River have been so designated. The State Scenic Waterway Act, first

approved by voters through Oregon's initiative process, prohibits issuance of new water rights within or above designated scenic waterways, unless minimum flow requirements are met.

Until the early 1990s, implementation of the Act was relatively straightforward and, for the most part, applied only to new applications for the use of surface water. With a growing understanding of the hydraulic connection between ground water and surface water, and with a growing database of information about ground water supplies in the Deschutes Basin, came new questions about interpretation and implementation of the Act.

As a result of clarifying amendments in 1995, the Act now includes detailed requirements for evaluating the potential impacts of new ground water uses within and above Scenic Waterways. Where proposed uses are determined to result in reduced surface flows, the applications must be denied unless the impacts can be fully mitigated. Where sufficient hydrogeologic information is not available to make an informed determination as to the potential impacts of the proposed ground water use, the WRD may approve the application—if other review criteria are met—but the new water right must include a condition allowing for future curtailment of the ground water use if and when data are available to demonstrate an adverse impact on the Scenic Waterway. ORS 390.835(9)–(12). Since 1995, all new ground water rights issued within the Deschutes Basin have included such a condition.

Scientific/Technical Framework

For nearly ten years, state and federal geologists have been working together on a comprehensive study of the ground water resources in the Deschutes Basin. The Deschutes Basin Ground Water Study has been led by the U.S. Geological Survey with cost-sharing and cooperation by state and local government agencies, as well as the Confederated Tribes of the Warm Springs Indian Reservation. Preliminary results indicate a clear hydraulic connection between most ground water uses and the designated Scenic Waterway reaches of the Deschutes River. *Chemical Study of Regional Ground-Water Flow and Ground-Water/Surface Water Interaction in the Upper Deschutes Basin, Oregon* (1998). The basin can be described as a large bathtub, with several key areas of discharge to the Deschutes River. Because ground water in the basin would naturally flow toward these points of discharge, and because pumping of ground water for new beneficial uses would interrupt this natural discharge, the WRD has determined the triggering conditions for Scenic Waterway regulation will be met.

The same data would support a finding by the WRD that issuance of new ground water rights could result in injury to existing senior surface water rights. In this case, the senior surface water rights most likely to be injured by the reduction in natural ground water discharge would be instream water rights designated for the protection of fish and aquatic resources.

Community/Procedural Framework

When the apparent impacts of the new ground water study became clear, WRD officials initiated an informal process to provide background information and seek input from other affected state agencies, local governments, environmental groups, water users, the Warm Springs Indian Tribes and interested citizens. After an initial series of town hall-type meetings in 1998, the WRD convened the Working Group to develop a long-term strategy for reconciling water supply needs with environmental needs. A Steering Committee, comprised of about 20 members representing different affected interests, was chosen to provide leadership and guidance for the Work Group. A neutral facilitator was hired by the group to assist with meeting management. Financial contributions for the process came from both public and private resources.

The Steering Committee adopted goals and operating principles for the process. A key provision was that the committee would attempt to make decisions by consensus. However, after more than two years of effort, the Work Group and Steering Committee were unable to reach complete consensus. The Work Group reviewed several iterations of a Draft Mitigation Strategy—intended as a summary report of the Working Group's effort—but failed to agree on issuance of a final document. In order to move the process forward, in February, 2001, the WRD issued its own "Draft Ground Water Mitigation Strategy for the Deschutes Basin," which incorporated many of the issues discussed by the Work Group, but contained the WRD's own policy recommendations.

After a period of public review and comment on the Draft Mitigation Strategy, the WRD finally initiated a formal administrative rulemaking process by the issuance of proposed administrative rules for public comment. (OWRD Public Hearing Draft, Dsechutes Basin Mitigation Rules, September 7, 2001). Final rule adoption is scheduled for November, 2001.

Mitigation Concepts

The WRD's proposed mitigation rules are based on general concepts developed by the Work Group, and described in the Draft Ground Water Mitigation Strategy. The proposed rules include general standards and procedural guidelines for meeting mitigation requirements. The primary concept embodied in the standards is that mitigation must be "wet." That is, a mitigation project must directly replace the projected impact of a ground water use by adding protected flow to the river. Examples of potential mitigation actions include: (1) conservation to reduce the amount of consumptive use under existing water rights; (2) transfer of existing surface water rights to instream flow; and (3) aquifer recharge projects.

Ground water impacts will be calculated based on the projected level of consumptive use. Mitigation will be required to replace the maximum amount of consumptive use authorized by the new water right. For most new uses, the full amount of mitigation must be in place before any ground water use may begin. However, for future municipal uses, where development of the water will occur over a long period of time, mitigation measures may be phased-in to correspond to the level of actual development.

For administrative ease, the WRD has proposed that mitigation be calculated on an annualized, volumetric basis. In addition, the proposed rules will allow mitigation projects to provide benefits anywhere within the Deschutes Basin, as opposed to requiring mitigation actions to be strictly tied to the location of new ground water use.

The proposed rules will apply to ground water permits issued since the 1995 law change (which contain a condition of use required by the 1995 Scenic Waterway amendments), and all new applications for new water rights. Those with existing post-1995 permits will be given notice of the "mitigation obligation" and will have a period of 180 days in which to submit a plan to the WRD describing how they will meet the mitigation requirements. A similar plan will be required as part of the application review process for all new ground water applications in the basin.

Arguably, the mitigation standard should not be applied in the same manner to those with existing post-1995 permits. All such permits contain a condition warning that the appropriation "will measurably reduce" the surface water flows necessary to maintain the free-flowing character of a scenic waterway. The condition does not indicate that mitigation will be required in order to avoid such regulation. However, the proposed WRD rules not only allow for, but require, the same amount of mitigation that will be needed for new water rights.

A reasonable question is whether the ground water study actually provides sufficient evidence upon which the WRD could *regulate* existing uses, given the department's pre-existing rules relating to regulation and distribution of water. OAR 690, Division 250. The WRD rules specifically prohibit regulation of an existing water right when such action is like to result in a "futile call." OAR 690-250-0020. A "call" for distribution is made when a senior surface water appropriator asks the WRD to regulate the use of junior rights in order to deliver water to the senior user. A "futile call" exists when the state Watermaster determines that the regulation of junior water right will result in "an inadequate amount of water, or no water" actually reaching the senior appropriator or instream water right. Given the uncertainties of modeling, coupled with the long time delays that may exist between the act of ground water pumping and the expected impact on surface water flows, the potential for a futile call argument appears quite likely.

On the other hand, those with conditioned post-1995 permits may find it easier to comply with the mitigation requirement than to launch a challenge to the WRD's authority. This appears to be the state's strategy. The WRD has been working closely with local interests, including the Deschutes Resource Conservancy, to help establish relatively inexpensive and easy access to mitigation water through a "mitigation bank." (See discussion below.) The WRD has indicated mitigation water may be available for as little as $100 per acre-foot for non-municipal water rights. If the concepts of mitigation credits and

mitigation banking can be applied in this manner, it may very well be cheaper for all permit holders and applicants to pay for the mitigation rather than fight the requirement.

Upon preliminary approval by the WRD, the mitigation plan will be incorporated into a Proposed Mitigation Order. When final, the provisions of the mitigation order will become part of the water right permit, as conditions on the use of water. Failure to comply with the mitigation conditions will constitute a violation of the permit, subject to enforcement action.

The concept of "mitigation credits" and "mitigation banking" are addressed in proposed rules, in accordance with new legislation approved during Oregon's 2001 Legislative Session. Under the new law, HB 2184, the WRD is authorized to award "credits" for projects that make water available for mitigation. The credits may be held for future use by the developer of the project, sold to someone else, or transferred to a "mitigation bank." The amount of mitigation credit awarded must be equal to the amount of water made available, as determined by the WRD. A preliminary award is made at the time the project is approved, based on the expected results; and a final award of credits is made upon completion of the project. Projects are expected to include transfers of existing surface water rights into "instream water rights," and conservation measures, such as lining or piping irrigation canals.

The concept of a mitigation bank was encouraged by the Work Group to facilitate cooperative efforts and larger projects than would result from a series of individual mitigation plans. The Deschutes Resources Conservancy, a non-profit organization formed to promote watershed restoration in the basin, has stepped forward as the first candidate to administer a mitigation bank. Although the WRD would be involved in the process of reviewing and approving actions for mitigation credits, the WRD would play no role in the development of a private market for the credits, or in managing the mitigation bank. Similarly, transactions involving mitigation credits would not require further WRD approval, so long as the credit is attached to a new ground water use within the same watershed. The WRD would establish and maintain a map of watersheds within the basin, and would serve as a clearinghouse for listing mitigation credits that may be available outside of the banking process.

Conclusion and Implications

The Deschutes Basin, in Oregon, will be a testing ground for creative efforts to reconcile the need to protect surface water rights, and instream flows, with the need to make effective use of available ground water resources. The use of mitigation projects to offset potential impacts on surface water flows will be an important tool in meeting this challenge, and the establishment of a system of mitigation credits and mitigation banking is expected to facilitate market based transactions for mitigation water. The program is likely to succeed if new water users perceive the administrative process and cost of mitigation to be reasonable in comparison to the real impacts of ground water pumping on surface water flows. At this point, the reality of those impacts is difficult to pinpoint, in that the consumptive use of all current post-1995 permits and pending ground water applications, including large applications for future municipal use, are less than can be measured within the margin of error for even the most sophisticated stream-gauging equipment. Participants in the WRD Work Group process, and other affected parties, seem willing to proceed with reasonable mitigation requirements on the basis of mathematical calculations and modeling that demonstrate a reduction in surface flows caused by new ground water development. The key, however, may be finding the right balance between the cost of compliance compared to the cost of administrative challenge. Mitigation credits and mitigation banking may provide the means for achieving that balance with affordable access to mitigation water.

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